tiltfactor

ABOUT THE LAB

Tiltfactor (www.tiltfactor.org) invents engaging games and novel forms of play to inspire new ways of thinking about important social issues. Founded and directed by leading innovator Dr. Mary Flanagan, Tiltfactor is an award-winning design studio and research laboratory that takes on critical problems at a national and global scale.

Our team of researchers and game designers harnesses the power of storytelling, systems thinking, and empathy in games to create powerful experiences that make positive differences in people's lives.

Tiltfactor conducts rigorous studies that demonstrate the impact of games and verify the efficacy of their methods. A trailblazer in the field of meaningful game design, Tiltfactor critically examines the intersections between psychology, learning, design, and technology. This team is both shaping the future of interactive design, as well as promoting 21st-century cognitive, social, and ethical skills.

OUR MISSION

Tiltfactor's mission is to discover new approaches to vexing social challenges through novel forms of play.

Tiltfactor is committed to shaping players' perspectives, beliefs, and behaviors in order to foster positive changes in their lives. Focusing on the role of human values in innovation, the team harnesses the power of play to promote public health, address cognitive biases, and deploy crowdsourcing techniques to generate new knowledge.

OUR RESEARCH

Tiltfactor conducts controlled research studies for nearly every game produced. Study results are then incorporated into an iterative design process in order to maximize positive social impact.

Tiltfactor research is supported by grants from sources such as the National Science Foundation, the National Endowment for the Humanities, and the Robert Wood Johnson Foundation.

Small board/card games

Fabricating stereotypes

IMPLICIT
STEREOTYPE

"practical usage"

Jingle

Sub

Jingle
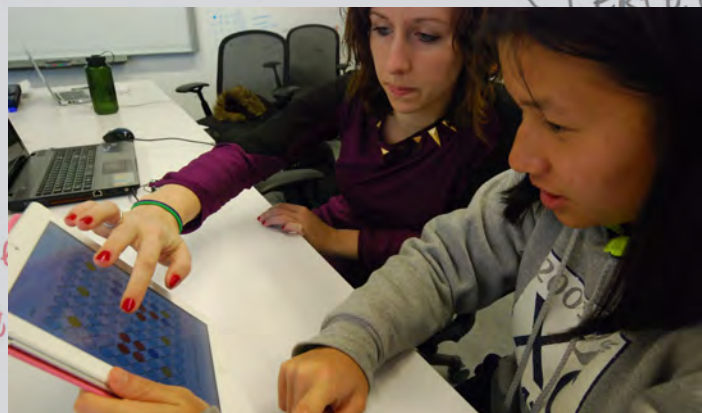
people

against

awareness of tacit

OUR FOCUS AREAS

By addressing important issues through accessible and engaging interactive experiences, Tiltfactor aims to design and study new ways of fostering social equity and increasing individual well-being. Tiltfactor has proven through rigorous research that games can change the world, particularly in our three areas of focus:

- Promoting public health
- Fostering inclusive attitudes and behaviors
- Creating engines for knowledge generation

OUR GAMES

Games should be fun, and at the heart of Tiltfactor's work is a desire to engage and entertain. At the same time, we believe that games are effective tools for learning, social interaction, and personal discovery. Tiltfactor designs games across a variety of platforms, including board games, card games, party games, digital games, apps, and even role-playing sports.

HEALTH GAMES

Our health-related games aim to promote self-care and disease prevention, and foster a greater understanding of modern healthcare delivery systems. They also aim to help players think deeply about important issues such as vaccination, and the health conditions and risk factors faced by millions of people. We have worked with the Robert Wood Johnson Foundation (RWJF), the Dartmouth Center for Health Care Delivery Science, the Minister of Health of Rwanda, and the Rippel Foundation.

GUT CHECH

A card game developed with RWJF, which supports their commitment to empower health consumers across America to improve health in their communities.

BILL OF HEALTH

A board game developed with RWJF in which players experience the benefits of aligning health care provider incentives with higher-quality care.

MICROBES

A card game developed through conversations with Rwanda's Minister of Health to improve rates of hand-washing among youth.

IN THE VILLAGE

A card game that demonstrates the importance of self-sacrificial sharing in malaria prevention.

REPLAY HEALTH

An engaging, printable role-playing sport that explores solutions to the US health care cost crisis. Rave reviews from high school students and World Bank representatives alike!

POX, ZOMBIEPOX, AND MORE

The award-winning board games and Android/iPad apps that help players understand the concept of herd immunity through vaccination.

SOCIAL VALUES GAMES

These games aim to improve communication and cooperation skills, to reduce players' prejudices and biases.

AWKWARD MOMENT

An award-winning social card game that puts players in terrifically awkward situations that might involve biases; part of a National Science Foundation (NSF) funded project called "Transforming Science, Technology, Engineering, and Math (STEM) for Women and Girls: Reworking Stereotypes & Bias."

BUFFALO

A name-dropping party card game of quick wits and zany combinations, created as part of the NSF Transforming STEM project. Lauded by numerous media outlets, including Ars Technica and Jezebel.com.

METADATA GAMES

Metadata Games is a suite of free online games designed to help libraries, museums, and archives gather useful data about image, video, and audio collections. This project is supported by the National Endowment for the Humanities and the American Council of Learned Societies. The British Library and Boston Public Library are among our many partners and collaborators.

ONE UP

A competitive word game that pits two players against one another in a battle to accurately describe images. Bonus points are awarded for creativity and accuracy — but if your opponent beats you to a word, she'll claim the points!

STUPID ROBOT

Teach a fledgling robot about the world! A single-player game to teach the robot about images using words of different letter lengths.
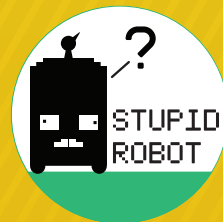
OUR RESULTS

Tiltfactor crafts meaningful games using pioneering research that generates empirically-supported social and cognitive outcomes. Study details about some of our games are highlighted below.

AWKWARD MOMENT

Awkward Moment, a party game about awkward social situations and social stereotypes, triggered significant changes among both middle school and adult participants.

Research revealed the game had the following effects:

- Increased players' likelihood of associating women and science threefold.
- Inspired greater assertiveness in players' self-identified responses to hypothetical occurrences of social bias.
- Strengthened players' perspective-taking abilities by shifting them from a self-oriented to an "other-oriented" mindset.

The game proved most effective at producing these outcomes when we used our "intermix" method, a way of balancing bias-related and neutral content.

BUFFALO

Our randomized experimental study of the party game Buffalo revealed that a single play session significantly decreased players' prejudice and improved their awareness and understanding of the complexity of social identities.

- Buffalo expanded the breadth and inclusiveness of players' own social identities, inspiring them to see more diverse types of people belonging to their "ingroups."
- The game produced significantly higher scores on the Universal Orientation Scale, a validated instrument that assesses people's openness and nonjudgement based on social categories such as gender, race, and nationality.

POX AND ZOMBIEPOX

Research involving the POX series of games revealed insights into the effects of analog vs digital games as well as the ability of games to increase systems-thinking intelligence. POX: Save the People was a board game. Two other games were also created — POX digital, an iPad app that was identical to the board game, and ZOMBIEPOX.

- Players of POX demonstrated an increased and nuanced understanding of herd immunity (disease prevention caused by limiting outbreaks because of vaccinated individuals).

- Both POX and ZOMBIEPOX heightened players' perception of the value of vaccination and facilitated significantly better performance on a validated measure of systems thinking (assessing one's understanding of interrelationships between variables and advanced concepts such as inflow and outflow in a complex system).

- Compared to the board game version of POX, the identical iPad app (played under the same conditions to the board game) did not produce significant effects on players' valuation of vaccination or on systems thinking. Players of the digital version exhibited a significantly

faster play rate, less player discussion and strategy deliberation, and much less success in winning.

- The re-skinned board game version, ZOMBIEPOX, triggered the highest levels of psychological transportation (i.e., absorption into the game world) and inspired improved empathic concern toward those with infectious diseases.

These studies collectively demonstrate that Tiltfactor doesn't simply produce fun games; the lab creates meaningful games with empirically supported evidence.

tiltfactor®

WWW.TILTFACTOR.ORG :: GAME DESIGN FOR SOCIAL CHANGE

246 Black Family Visual Arts Center
22 Lebanon Street
Dartmouth College
Hanover, New Hampshire 03755
(603) 646-1007

@tiltfactor
www.tiltfactor.org
contact@tiltfactor.org
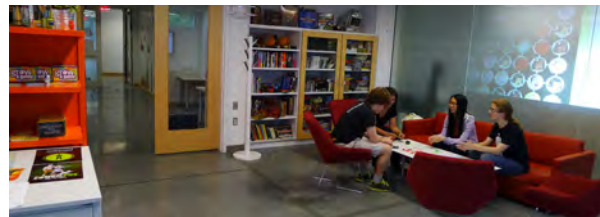
Dr. Mary Flanagan is an award-winning author, scholar, and designer. Flanagan is the founding director of Tiltfactor, whose passion for supporting human values leads to innovative design for social impact. She has written 30 critical essays; her books in English include *reload: rethinking women + cyberculture* (2002), *re:SKIN* (2007), *Critical Play* (2009), and *Values at Play in Digital Games* (2014), all with MIT Press. Her work has been supported by the British Arts Council, the National Endowment for the Humanities, the American Council of Learned Society, and the National Science Foundation, and she serves on the faculty of the Salzburg Global Seminar and the White House Office of Science and Technology Policy's Academic Consortium on Games for Impact. Flanagan is the Sherman Fairchild Distinguished Professor in Digital Humanities at Dartmouth College.

Tiltfactor occupies a loft design studio in the Black Family Visual Arts Center at Dartmouth College, where the team fuses a creative approach to art, technology, and innovation. Tiltfactor's personality is matched by its playful, modern space with its comprehensive collection of game consoles, analog and digital game libraries, video conferencing stations, and brainstorming, design, and prototyping areas.

Staff includes game designers, visual artists, graphic designers, information architects and programmers, as well as undergraduate and postgraduate students. The team's diverse academic and personal backgrounds enable the lab to design games that forge new styles of play. Research in the lab is conducted across design science, learning, psychology, computer science, information science, systems design/engineering, and media studies.